CLAIMS

1. Power train (1) of an all-wheel vehicle with at least two driven vehicle axles (4, 5), with a main transmission (3) placed between the main engine (2) and the vehicle axles (4, 5), capable of displaying different conversion ratios, which has three control and adjustment frictional clutches (k_VA, k_HA_L and k_HA_R), of which the first clutch (k_VA) is placed between the main transmission (3) and the first vehicle axle (4), and the second clutch (k_HA_L) and the third clutches (k_HA_R) are respectively located between an axle transmission (7) and the two driven wheels (5A, 5B) of the second vehicle axle (5), whereby the respective transfer capabilities of the clutches (k_VA, k_HA_L and k_HA_R) can be adjusted with an actuator (8), and the driving torque between the driven vehicle axles (4, 5) can be distributed depending on the adjusted transfer capabilities of the clutches (k_VA, k_HA_L and k_HA_R).

2. Power train according to claim 1, is thereby characterized by the fact that the driving torque applied to the second vehicle axle (5) can be distributed, depending on the adjusted transfer capabilities of the second clutch (k_HA_L) and the third clutch (k_HA_R) between the driven wheels (5A, 5B) of the second vehicle axle (5).

3. Power train according to claim 2, is thereby characterized by the fact that the respective actuations over the second clutch (k_HA_L) and over the third clutch (k_HA_R) take place in such a way, that the transfer capabilities of the clutches (k_HA_L and/or k_HA_R) can be varied, depending on the driving stability from the improved transversal distribution ratio (qvt) of the driving torque fraction from the main engine (2) applied to the second vehicle axle (5).

4. The power train according to claims 1 to 3, is thereby characterized by the fact that the actuator (8) can be either a hydraulic and / or an electro mechanical control system.

5. The power train according to claims 1 to 3, is thereby characterized by the fact that the actuator can be a piezo electrical or an electro magnetic control system.

6. The power train according to claims 1 to 5, is thereby characterized by the fact that the actuator (8) for controlling and adjusting the transfer capabilities of the clutches (k_VA, k_HA_L and k_HA_R) is formed by multiple actuators (11, 12, 24).

7. The power train according to claim 6, is thereby characterized by the fact that the actuators (11, 12, 24) respectively can be driven by an electric motor, whose rotational driving motion respectively is not convertible by means of a ball winding drive (13, 14, 23) into a translation activation of the clutches (k_VA, k_HA_L and k_HA_R).

8. The procedure for controlling and adjusting the power train (1), according to one of the existing and mentioned patent claims, is thereby characterized by the fact that for a lengthwise distribution of the driving torque between the two driven vehicle axles (4, 5), the transfer capabilities of the clutches (k_VA, k_HA_L and k_HA_R) are adjusted in such a way that one of the clutches (k_VA or k_HA_L or k_HA_R) operates under a synchronous condition, while the transfer capabilities of the other clutches (k_HA_L and k_HA_R or k_VA and k_HA_R, or k_HA_L and k_HA_R) are varied between a lower limit value (W(u)) and an upper limit value (W(o)), in which the synchronous condition of the clutches (k_VA, k_HA_L or k_HA_R) corresponds.

9. The procedure according to claim 8, is thereby characterized by the fact that there is a lower limit value (W(u)) for the transfer capabilities of the clutches (k_VA, k_HA_L, k_HA_R), basically no driving torque will be transferred by the clutches (k_VA, k_HA_L, k_HA_R) to another clutch (k_VA, k_HA_L, k_HA_R), and these clutches (k_VA, k_HA_L and k_HA_R) will transfer the driving torque completely and approximately without power losses.

10. The procedure according to claim 8 or 9, is thereby characterized by the fact, that a lengthwise distribution ratio (lvt) of the driving torque between the two vehicle axles (4, 5) can be varied by modifying the transfer capability of the first clutch (k_VA) and / or by modifying the transfer capability of the second clutch (k_HA_L) and of the third clutch (k_HA_R).

11. The procedure according to claims 8 to 10, is thereby characterized by the fact, that a transversal distribution ratio (qvt) of the driving torque portion applied to the second vehicle axle (5) can be adjusted between the driven wheels (5A, 5B) of the second vehicle axle (5), depending on the transfer capability of the second clutch (k_HA_L) and of the third clutch (k_HA_R).